TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC)
Division of Water Resources, William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243, 1-888-891-TDEC (8332)

Annual Stormwater Monitoring Report for Stormwater Discharges Associated with Industrial Activities under the Tennessee Multi-Sector General NPDES Permit (TMSP)

Facility Name:	Air Liquide Industrial U.S. LP - Millington	TMSP Number:	TNR050988
Contact Person:	Curtis Dobbs, Plant Manager	Phone Number:	901-357-7333
This report is submitted for the following calendar year (e.g. 2013):	2013	Outfall Number:	001
List all TMSP sectors which apply to discharge from this outfall:	C-3	Sample Date:	2/20/14

LOW CONCENTRATION WAIVER (See Instructions Note 3): List all parameters for which the facility is certifying that there has not been a significant change in industrial activity or the pollution prevention measures in the area of the facility that drains to the outfall for which sampling was waived.

Parameters:

ENTERED ON: / / BY:

DIRECTIONS: In the spaces below, provide the results of storm water monitoring for the designated outfall. The parameters for which monitoring must be conducted depend on which industry sector(s) of the TMSP applies to the discharge. Look up your sector(s) in the permit and analyze for the parameters that apply. If parameter is not listed below, submit additional sheets. All samples should be collected by grab technique.

Parameter	Benchmark (mg/L)	Annual Sample Result (mg/L)	Parameter (continued)	Benchmark (mg/L)	Annual Sample Result (mg/L)
Aluminum, Total	0.75	0.455	Magnesium, Total	0.064	1.6
Ammonia	4.0	0.84	Mercury, Total	0.0024	
Arsenic, Total	0.15		Nickel, Total	0.875	
BOD, 5-Day	30		Nitrate + Nitrite Nitrogen	0.68	2.5
Cadmium, Total	0.0021		Oil and Grease	15	
Chromium, Total	1.8		pH	5.0-9.0	7.12
COD	120		Phenols	0.016	
Copper, Total	0.018	0.0131	Phosphorus, Total (as P)	2.0	
Cyanide, Total	0.022		Selenium, Total	0.005	
Fluoride	1.8		Silver, Total	0.0038	
Iron, Total	5.0	0.654	Total Suspended Solids (TSS)	150	
Lead, Total	0.156		Zinc, Total	0.395	

TN DEPT OF ENVIRONMENT AND CONSERVATION
MAR 10 2014
DIV OF WATER RESOURCES
RECEIVED

CERTIFICATION AND SIGNATURE Make all entries in ink. This report must be signed by a responsible corporate officer for a corporation, a general partner for a partnership, the proprietor for a sole proprietorship, or a principal executive officer or ranking elected official for a public agency.

I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Curtis Dobbs	Plant Manager		3-6-14
Permittee name (print or type)	Official Title	Signature	Date

INSTRUCTIONS

1. The purpose of this form is to report stormwater monitoring results under the TMSP. **Only one sample per calendar year is required** (except Sectors J & H, for more details see the TMSP at http://www.tn.gov/environment/permits/tmsp.shtml) Grab samples should be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed one hour) of when the runoff or snowmelt begins discharging. A separate form must be submitted for each outfall. If more than one sample is collected at any outfall, submit the average results of all monitoring data (for calculating average, use ½ of a detection level, if parameter was not detected). New facilities must conduct sampling in the year during which permit coverage was obtained and during each following year. The completed form must be submitted by March 31 of the following year, e.g. monitoring required during 2013 calendar year is due by March 31, 2014.

2. If the results of annual stormwater runoff monitoring demonstrates that the facility has exceeded the benchmark concentration, the permittee must inform The Division's local Environmental Field Office (EFO) in writing within 30 days from the time stormwater monitoring results were received, describing the likely cause of the exceedance(s). Furthermore, within 60 days from the time stormwater monitoring results were received, the facility must review its stormwater pollution prevention plan (SWPPP), make any modifications or additions to the plan which would assist in reducing runoff concentrations to less than the benchmark concentrations for that parameter, and submit to the local EFO a summary of the proposed SWPPP modifications (including a timetable for implementation).

3. Low Concentration Waiver – When the average concentration for a pollutant calculated from monitoring data collected from the first four calendar years of monitoring is less than the benchmark concentration, a facility may waive monitoring requirements in the last annual monitoring period. This form should be used for certification of low concentration waiver provision.

Complete, sign and date this form before it is submitted. Keep a copy of the completed form for your records. Submit the original completed and signed form to: Compliance & Enforcement Unit, William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243 or you may submit the report electronically to: DWRWater.Compliance@tn.gov

Pace Analytical®
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Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

March 05, 2014

Mr. Curtis Dobbs
Air Liquide USA LLC
5808 Old Millington Rd.
Millington, TN 38053

RE: Project: TPDES PERMIT NO. TNR050988
Pace Project No.: 92190565

Dear Mr. Dobbs:
Enclosed are the analytical results for sample(s) received by the laboratory on February 21, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angela M. Baioni

Angela Baioni
angela.baioni@pacelabs.com
Project Manager

Enclosures

cc: Eugene Stepp, Air Liquide USA LLC

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(704)875-9092

CERTIFICATIONS

Project: TPDES PERMIT NO. TNR050988
Pace Project No.: 92190565

Asheville Certification IDs
2225 Riverside Dr., Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: TPDES PERMIT NO. TNR050988
Pace Project No.: 92190565

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92190565001	**SW SAMPLE #1**	EPA 200.7	JMW	4	PASI-A
		EPA 350.1	AES2	1	PASI-A
		EPA 353.2	DMN	1	PASI-A

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ANALYTICAL RESULTS

Project: TPDES PERMIT NO. TNR050988
Pace Project No.: 92190565

Sample: SW SAMPLE #1 **Lab ID: 92190565001** Collected: 02/20/14 16:23 Received: 02/21/14 09:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**455**	ug/L	100	1	02/26/14 09:35	02/26/14 23:29	7429-90-5	
Copper	**13.1**	ug/L	5.0	1	02/26/14 09:35	02/26/14 23:29	7440-50-8	
Iron	**654**	ug/L	50.0	1	02/26/14 09:35	02/26/14 23:29	7439-89-6	
Magnesium	**1600**	ug/L	100	1	02/26/14 09:35	02/26/14 23:29	7439-95-4	
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**0.84**	mg/L	0.10	1		02/28/14 12:59	7664-41-7	
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	**2.5**	mg/L	0.020	1		03/04/14 17:26		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: TPDES PERMIT NO. TNR050988
Pace Project No.: 92190565

QC Batch: MPRP/15305
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 MET
Associated Lab Samples: 92190565001

METHOD BLANK: 1145274 Matrix: Water
Associated Lab Samples: 92190565001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	100	02/26/14 22:02	
Copper	ug/L	ND	5.0	02/26/14 22:02	
Iron	ug/L	ND	50.0	02/26/14 22:02	
Magnesium	ug/L	ND	100	02/26/14 22:02	

LABORATORY CONTROL SAMPLE: 1145275

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4940	99	85-115	
Copper	ug/L	500	484	97	85-115	
Iron	ug/L	5000	4760	95	85-115	
Magnesium	ug/L	5000	4870	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1145276 1145277

Parameter	Units	92190658001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Aluminum	ug/L	232	5000	5000	5140	5290	98	101	70-130	3	
Copper	ug/L	ND	500	500	494	510	98	101	70-130	3	
Iron	ug/L	1450	5000	5000	6030	6200	92	95	70-130	3	
Magnesium	ug/L	47800	5000	5000	51400	52400	72	92	70-130	2	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1145278 1145279

Parameter	Units	92190460001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Aluminum	ug/L	302	5000	5000	5240	5370	99	101	70-130	2	
Copper	ug/L	ND	500	500	481	478	96	95	70-130	1	
Iron	ug/L	574	5000	5000	5250	5360	93	96	70-130	2	
Magnesium	ug/L	1130	5000	5000	5790	5870	93	95	70-130	1	

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QUALITY CONTROL DATA

Project: TPDES PERMIT NO. TNR050988
Pace Project No.: 92190565

QC Batch: WETA/18202 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 92190565001

METHOD BLANK: 1147844 Matrix: Water
Associated Lab Samples: 92190565001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	02/28/14 12:52	

LABORATORY CONTROL SAMPLE: 1147845

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	5	5.1	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1147846 1147847

Parameter	Units	92191408002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Nitrogen, Ammonia	mg/L	ND	5	5	5.3	5.3	106	106	90-110	0	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1147848 1147849

Parameter	Units	92191126002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Nitrogen, Ammonia	mg/L	ND	5	5	5.0	4.9	98	97	90-110	1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: TPDES PERMIT NO. TNR050988
Pace Project No.: 92190565

QC Batch: WETA/18244
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, preserved
Associated Lab Samples: 92190565001

METHOD BLANK: 1149724 Matrix: Water
Associated Lab Samples: 92190565001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	0.020	03/04/14 17:08	

LABORATORY CONTROL SAMPLE: 1149725

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.5	2.3	92	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1149726 1149727

Parameter	Units	92190991002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	0.39	2.5	2.5	2.8	2.7	95	94	75-125	0	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1149728 1149729

Parameter	Units	92190991003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	0.028	2.5	2.5	2.2	2.2	89	89	75-125	0	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: TPDES PERMIT NO. TNR050988
Pace Project No.: 92190565

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-A Pace Analytical Services - Asheville

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: TPDES PERMIT NO. TNR050988
Pace Project No.: 92190565

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92190565001	**SW SAMPLE #1**	EPA 200.7	MPRP/15305	EPA 200.7	ICP/13887
92190565001	**SW SAMPLE #1**	EPA 350.1	WETA/18202		
92190565001	**SW SAMPLE #1**	EPA 353.2	WETA/18244		

Pace Analytical	Document Name: Sample Condition Upon Receipt (SCUR)	Page 1 of 2
	Document Number: F-CHR-CS-03-rev.13	Issuing Authority: Pace Huntersville Quality Office

Client Name: Air Liquide

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other_____

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals Intact: ☑ yes ☐ no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun T1102 (T1301) Type of Ice: (Wet) Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor T1102: No Correction T1301: No Correction

Corrected Cooler Temp.: 0.2 °C Biological Tissue is Frozen: (Yes) No N/A

Date and Initials of person examining contents: 2/21

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:_____		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, Wi-DRO (water)	☐Yes ☐No	
Samples checked for dechlorination:	☑Yes ☐No ☐N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted:_____ Date/Time:_____

Comments/ Resolution:_____

SCURF Review:	AMB	Date:	2-21-14
SRF Review:	AMB	Date:	2-21-14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

WO#: 92190565

92190565

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Air Liquide Industrial US LP	Report To:	Curtis Dobbs	Attention:	Curtis Dobbs
Address:	5808 Old Millington Road	Copy To:	Eugene Stepp (Eugene.stepp@airliquide.com)	Company Name:	ALIUS
	Millington, TN 38053		Damian Vickerman (damian.vickerman@airliquide	Address:	Same as Section A
Email To:	curtis.dobbs@airliquide.com	Purchase Order No.:	Air Liquide Woodstock	Pace Quote Reference:	
Phone: 901-357-7333	Fax: 901-357-6222	Project Name:	TPDES Permit No. TNR050988	Pace Project Manager:	
Requested Due Date/TAT:	Normal	Project Number:	N/A	Pace Profile #:	44169-2

REGULATORY AGENCY: ☑ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: TN

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Ammonia	Total Aluminum	Total Copper	Total Magnesium	Total Iron	Nitrate plus Nitrite N								Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92190565
																		Y/N	N	N	N	N	N	N							
1	SW Sample #1	WT	G	2/20/14	16:23	NA	NA	17.9	2		x	x							x	x	x	x	x	x							001
2																															
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
pH: 7.12	Eugene Stepp / Air Liquide	2/20/14	16:51	Jamie Price	2/21	935	02	4	Y	4
Temp.: 17.9°C										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eugene Stepp

SIGNATURE of SAMPLER: Eugene Stepp DATE Signed (MM/DD/YY): 2-20-14

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.